must be effectively sealed to maintain the required setting.

[Amdt. 178–65, 46 FR 9898, Jan. 29, 1981; 46 FR 24184, Apr. 30, 1981, as amended by 66 FR 45387, Aug. 28, 2001]

### § 178.270–14 Marking of tanks.

(a) *General.* Each tank must bear a corrosion resistant metal identification plate that is permanently attached to the portable tank and readily accessible for inspection. The information required in paragraph (b), and, when appropriate, paragraph (c) of this section must be stamped, embossed or otherwise marked by an equally durable method on the plate in characters at least 3 mm (0.118 inches) high. The plate must not be painted.

(b) *Required information.* At least the following information must appear on the metal identification plate for each tank:

(1) US DOT Specification number.

(2) Country of manufacture.

(3) Manufacturer's name.

(4) Date of manufacture.

(5) Manufacturer's serial number.

(6) Identification of USA/DOT approval agency and approval number.

(7) MAWP, in bar or psig.

(8) Test pressure, in bar or psig.

(9) Total measured water capacity at 20 °C (68 °F), in liters or gallons.

(10) Maximum allowable gross weight, in kg or lbs.

(11) Equivalent minimum shell thickness in mild steel, in mm or inches.

(12) Tank material and specification number.

(13) Metallurgical design temperature range, in °C or °F.

(c) *Additional information.* The following additional information must appear on the metal identification plate when applicable:

(1) Lining material.

(2) Heating coil MAWP in bar and psig.

(3) Corrosion allowance, in mm or in.

(d) In addition to the markings required above, each tank used in international transport must have a Safety Approval Plate containing the information required in §§ 451.21 through 451.25 of this title.

(e) Nothing in this section shall be deemed to preclude the display of other pertinent information on the required metal identification plate.

[Amdt. 178–65, 46 FR 9899, Jan. 29, 1981, as amended at 62 FR 51561, Oct. 1, 1997; 66 FR 45387, Aug. 28, 2001]

## § 178.271 Specification IM 101 steel portable tanks.

### § 178.271–1 General requirements.

(a) Specification IM 101 portable tanks must conform to the general design and construction requirements in § 178.270 of this subpart in addition to the specific design requirements contained in this section.

(b) The MAWP of each tank shall be equal to or greater than 1.75 bar (25.4 psig) and less than 6.8 bar (100 psig).

(c) Each tank shall be designed and constructed in accordance with the requirements of Section VIII, Division 1, of the ASME Code except as limited or modified in this section or in § 178.270 of this subpart. ASME certification or stamp is not required.

[Amdt. 178–65, 46 FR 9899, Jan. 29, 1981, as amended by Amdt. 178–104, 59 FR 49135, Sept. 26, 1994; 66 FR 45387, Aug. 28, 2001]

## § 178.272 Specification IM 102 steel portable tanks.

### § 178.272–1 General requirements.

(a) Specification IM 102 portable tanks must conform to the general design and construction requirements in § 178.270 of this subpart in addition to the specific design requirements contained in this section.

(b) The MAWP of each tank shall be less than 1.75 bar (25.4 psig) but at least 1.0 bar (14.5 psig).

(c) Each tank shall be designed and constructed in accordance with the requirements of Section VIII, Division 1, of the ASME Code except as limited or modified in this section or in § 178.270 of this subpart. ASME certification or stamp is not required.

[Amdt. 178–65, 46 FR 9899, Jan. 29, 1981, as amended by Amdt. 178–104, 59 FR 49135, Sept. 26, 1994; 66 FR 45387, Aug. 28, 2001]

### § 178.272–2 Minimum thickness of shells and heads.

(a) The approval agency may authorize a minimum thickness less than that required by § 178.270–5 of this subpart

where additional protection against tank puncture provides equal integrity.

(b) The shell and head thickness of a tank must be at least:

(1) 3.18 mm (0.125 inches) for a tank with a maximum cross-sectional dimension of 1.8 m (5.9 feet) or less; or

(2) 4 mm (0.157 inches) for a tank constructed of the reference mild steel having a maximum cross-sectional dimension exceeding 1.8 m (5.9 feet). For tanks having a maximum cross-sectional dimension exceeding 1.8 m (5.9 feet) constructed of other steels, an equivalent head and shell thickness calculated in accordance with §178.270–5(c) of this subpart may be used, subject to an absolute minimum of 3.18 mm (0.125 inches).

(c) The following additional puncture protection systems are authorized:

(1) An overall external structural protection, such as a jacket, which is rigidly secured to the tank with a layer of cushioning material installed between the external structural protection and the tank; or

(2) A complete framework surrounding the tank including both longitudinal and transverse structural members.

[Amdt. 178–65, 46 FR 9899, Jan. 29, 1981, as amended at 66 FR 45387, Aug. 28, 2001]

### §178.273 Approval of Specification IM portable tanks and UN portable tanks.

(a) *Application for approval.* (1) An owner or manufacturer of a portable tank shall apply for approval to a designated approval agency authorized to approve the portable tank in accordance with the procedures in subpart E, part 107 of this subchapter.

(2) Each application for approval must contain the following information:

(i) Two complete copies of all engineering drawings, calculations, and test data necessary to ensure that the design meets the relevant specification.

(ii) The manufacturer's serial number that will be assigned to each portable tank.

(iii) A statement as to whether the design type has been examined by any approval agency previously and judged unacceptable. Affirmative statements must be documented with the name of the approval agency, reason for nonacceptance, and the nature of modifications made to the design type.

(b) *Action by approval agency.* The approval agency must perform the following activities:

(1) Review the application for approval to determine whether it is complete and conforms with the requirements of paragraph (a) of this section. If an application is incomplete, it will be returned to the applicant with an explanation as to why the application is incomplete.

(2) Review all drawings and calculations to ensure that the design is in compliance with all requirements of the relevant specification. If the application is approved, one set of the approved drawings, calculations, and test data shall be returned to the applicant. The second (inspector's copy) set of approved drawings, calculations, and test data shall be retained by the approval agency. Maintain drawings and approval records for as long as the portable tank remains in service. The drawings and records must be provided to the Department of Transportation (DOT) upon request.

(3) Witness all tests required for the approval of the portable tank specified in this section and part 180, subpart G of this subchapter.

(4) Ensure, through appropriate inspection that each portable tank is fabricated in all respects in conformance with the approved drawings, calculations, and test data.

(5) Determine and ensure that the portable tank is suitable for its intended use and that it conforms to the requirements of this subchapter.

(6) For UN portable tanks intended for non-refrigerated and refrigerated liquefied gases and Division 6.1 liquids which meet the inhalation toxicity criteria (Zone A or B) as defined in §173.132 of this subchapter, or that are designated as toxic by inhalation materials in the §172.101 Table of this subchapter, the approval agency must ensure that:

(i) The portable tank has been constructed in accordance with the ASME Code, Section VIII, Division 1 (see §171.7 of this subchapter). ASME Code, Section VIII, Division 2 (see §171.7 of